Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A miniature fuel reformer for use in a fuel cell driven vehicle comprising a plurality of unit modules connected with each other in series, parallel, or a combination thereof, each of the unit modules including:

an inner housing having a cylindrical shape ~~while having~~ and top and bottom walls;

an outer housing arranged around the inner housing ~~while being~~ and radially spaced from the inner housing;

a hydrogen separation reaction chamber defined ~~in~~ by the inner housing;

a combustion catalyst chamber defined between the inner and outer housings and containing a combustion catalyst for supplying heat needed in the inner housing;

a fuel inlet provided at the top wall of the inner housing and adapted to introduce liquid fuel into the hydrogen separation reaction chamber;

a plurality of vertically spaced hydrogen gas separation cells arranged in the hydrogen separation reaction chamber and comprising a pair of spaced metal films adapted to selectively permeate hydrogen contained in the fuel introduced in the hydrogen separation reaction chamber, thereby separating the hydrogen from the fuel;

a steam reforming catalyst filled in the hydrogen separation reaction chamber between adjacent ~~ones of the~~ hydrogen gas separating cells, said reforming catalyst ~~and~~ adapted to reform the fuel introduced in the hydrogen separation reaction chamber;

a plurality of vertically spaced cylindrical support members centrally arranged in the hydrogen separation reaction chamber ~~while~~ and defining a hydrogen passage communicating with the hydrogen separating cells, thereby allowing the hydrogen separated from the fuel to be discharged from the hydrogen separation cells, each of the cylindrical support members being interposed between adjacent ~~ones of the~~ hydrogen gas separation cells and serving to regulate a gap defined between the adjacent hydrogen gas separation cells;

a permeate discharge tube coupled to the bottom wall of the inner housing, the permeate

discharge tube communicating with the hydrogen passage defined by the cylindrical support members to allow the hydrogen introduced in the hydrogen passage to be outwardly discharged from the hydrogen passage;

a plurality of raffinate outlets provided at the bottom wall of the inner housing and adapted to discharge a portion of the fuel, not permeating through any one of the hydrogen gas separation cells, from the hydrogen separation reaction chamber; and

a plurality of combustion fuel/air inlets respectively connected to the raffinate outlets by conduits and adapted to introduce the fuel portion discharged from the raffinate outlets into the combustion catalyst chamber, along with air, so that the fuel portion is burned in the combustion catalyst chamber.

2. (currently amended) The miniature fuel reformer of claim 1 wherein each of the hydrogen gas separation cells comprises:

~~a pair of spaced metal films adapted to selectively separate hydrogen from the fuel;~~

an annular support plate interposed between the metal films and attached to the metal films at opposite surfaces thereof, the support plate having at least one fuel channel at a portion thereof;

a support layer interposed between the metal films inside the support plate and adapted to provide a structural stability for the metal films to withstand a high pressure, the support layer having a porous separation film structure to provide a passage for the hydrogen introduced into the interior of the hydrogen gas separation cell defined between the metal films; and

a central support disk arranged inside the support layer in such a fashion that it is vertically aligned with the cylindrical support members, the central support disk having at least one radial hole communicating with the hydrogen passage provided by the support layer and with the hydrogen passage defined by the cylindrical support members, thereby serving as a permeate passage.

3. (original) The miniature fuel reformer of claim 1 wherein the steam reforming catalyst contains at least one metal component selected from the group consisting of Cu, Zn, Fe, Cr, Ti, and Ni, or contains at least one precious metal in the amount of at least 0.01% by weight based on the weight of the catalyst.

4. (currently amended) The miniature fuel reformer of claim 2 wherein the respective metal films ~~is~~ are made of a palladium-based alloy or a metal foil coated with palladium.

5. (original) The miniature fuel reformer of claim 2 wherein the support plate and the metal films, and the central support disk and the metal films, respectively, are attached to each other by a diffusion welding.

6. (currently amended) The miniature fuel reformer of claim 2 wherein the hydrogen gas separation cells are arranged in the hydrogen separation reaction chamber such that the fuel channels are located in a zigzag pattern, whereby ~~a~~ contact efficiency between the fuel and the steam reforming catalyst, and ~~a~~ contact efficiency between the reforming gas and the metal films, ~~are~~ is increased.

7. (currently amended) The miniature fuel reformer of claim 1 wherein the respective cylindrical support members ~~is~~ are fixed to the hydrogen gas separation cells by a diffusion welding.

8. (withdrawn) A miniature fuel reforming system for use in fuel cell driven vehicles, comprising:

a fuel preheater for preheating and vaporizing a liquid fuel;

a fuel reformer for receiving the vaporized fuel via a fuel supply header and separating hydrogen from the received fuel to produce a reforming gas, the fuel reformer having a hydrogen separation reaction chamber for separating hydrogen from the received fuel, and a combustion catalyst chamber contained with a combustion catalyst for supplying heat needed in the hydrogen separation reaction chamber, the combustion catalyst chamber receiving the hydrogen-separated fuel, that is, a raffinate;

means for receiving a permeate, that is, the hydrogen separated by and discharged from the hydrogen separation reaction chamber of the fuel reformer, via a permeate header, controlling the pressure of the received permeate, and supplying the pressure-controlled permeate to an anode of a fuel cell;

means for controlling the pressure of the raffinate discharged from the hydrogen separation reaction chamber, thereby controlling the hydrogen separation reaction chamber of the fuel reformer; and

valve means for supplying the raffinate to the combustion catalyst chamber of the fuel reformer.